

APPENDIX

D-2

Transportation  
Demand  
Management

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## TRANSPORTATION DEMAND MANAGEMENT

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### 1. Background

In the fall of 2000, the Southern California Association of Governments established a Regional Transportation Demand Management (RTDM) Task Force. The purpose of the Task Force is to facilitate discussion and development of regional transportation demand management goals, policies, programs and strategies for the regional transportation plan development process that serves Southern California's needs.

The Task Force voting membership is comprised of elected representatives who serve on SCAG's Transportation & Communications Committee. Additional participants include technical representatives from county transportation commissions, air quality management and air pollution control districts, the California Air Resources Board, bicycle and pedestrian coalitions, Caltrans and the Federal Highway Administration.<sup>1</sup>

During the fall 2000 and extending to the summer of 2003 the RTDM Task Force, its technical working groups (bicycle and pedestrian and park'n'ride) and Task Force-sponsored TDM Peer Review Groups (November 2002 and June 2003) reviewed regional TDM goals, policies, programs and strategies contained in the 2001 RTP (CommunityLink 21) as a starting point to determine what recommendations would be made for inclusion in the 2004 RTP.

The Task Force envisioned discussion to consider a wide range of both traditional and non-traditional regional TDM actions to respond to the fact that, "Southern California cannot build its way out of transportation congestion." The seminal belief is strategic, multi- and inter-modal capital construction must be accompanied by both system and demand management efforts that together may attain adopted regional transportation performance goals. Task Force members met monthly and worked in concert with staff, a technical consultant team, stakeholder agency representatives and coordinated its work with the Highway/Finance and Transit Task Forces. The product of this effort follows.

Key issues/questions that guide RTDM Task Force efforts are:<sup>2</sup>

- What role does TDM play in the overall achievement of regional mobility and air quality goals?
- Given this role, what goals are established for TDM?
- If these goals are attainable, what level of effort is required to achieve them?
- Finally, what organizational structure is best suited to assume this responsibility?

TDM strategies are an important element of the RTP: (1) contribute to meeting mobility goals, and (2) assist in compliance and attainment of the California and Federal Clean Air Acts. As a result, the RTP is subject the Transportation Conformity Rule, meaning RTP policies, programs and projects must be consistent with and conform to the applicable State Implementation Plan (SIP) for air quality. The RTP must demonstrate conformity with the SIP in order the SCAG region to continue to receive transportation funds from federal sources. It is clear then that the goals of mobility, financial and air quality are closely inter-linked. Transportation Demand Management (TDM) is the all-inclusive term given to a variety of

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<sup>1</sup> Source: SCAG, October 2003

<sup>2</sup> Moore Iacofano Goltsman, Inc., Regional Core Rideshare services Study: Final Report, SCAG, 2/28/2002 pp. 10-14.

measures used to improve the efficiency of the existing transportation system by managing travel demand. Travel behavior may be influenced by mode, reliability, frequency, route, time and costs, support programs/facilities, perceived personal security and safety, and education.<sup>3</sup>

TDM strategies encourage the use of alternatives to the single occupant vehicle such as carpools, vanpools, bus, rail, bikes and walking. (For purposes of the RTP, transit and non-motorized strategies are separated.) Alternative work-hour programs, such as compressed work-week programs, flextime and work-at-home (telework and home-based businesses) are also TDM strategies, as are parking management tactics, such as preferential parking for carpools and parking pricing.

A two-step assessment process was utilized to screen and to select TDM strategies for circulation in the Draft 2004 RTP.<sup>4</sup> The potential effectiveness of TDM in 2030 depends largely on social and institutional commitments as well as funding. If we were to do nothing beyond our current efforts, the Region would not sustain the current levels of ridesharing and work-at-home, let alone expand them over the 2004 RTP period.

The 2004 Draft RTP, as does the adopted 2001 RTP, places “considerable emphasis on RTDM strategies and actions”: 8,000 net new carpools each year over the next 30 years, an increase of 3,600 new vanpools from 1,400 to 5,000 by the year 2030, and a significant increase in telework/telecommuting and work-at-home resulting in an 11% reduction in work trips by the year 2030.<sup>5</sup>

The Region recognizes the importance of TDM strategies proposes a significant level of funding to meet the TDM goals as summarized in Table D-2.1. The total investment proposed for Non-motorized, Rideshare, ITS, and TDM is \$1.25 billion.<sup>6</sup>

**Table D-2-1**

### **TDM Investments**

<b>County</b>	<b>Non-Motorized*</b>	<b>Rideshare**</b>	<b>TDM</b> (Park and Ride Lots, Telework/Telecommute/ Work-At-Home, Parking Management, etc.)
Imperial	\$32,000,000	\$0	*
Los Angeles	\$513,300,000	\$114,300,000	\$186,600,000
Orange	\$115,000,000	\$27,000,000	**
Riverside	\$50,000,000	\$66,400,000	**
San Bernardino	\$39,000,000	\$36,000,000	\$6,500,000
Ventura	\$65,000,000	\$0	*
<b>Regional Total</b>	<b>\$814,300,000</b>	<b>\$243,700,000</b>	<b>\$193,100,000</b>

\* Imperial and Ventura County costs for TDM are included in the Non-Motorized amount.  
 \*\* Orange and Riverside County costs for TDM are included in the Rideshare amount.

The total investment proposed for non-motorized, rideshare, and TDM is \$1.25 billion; private sector investments (amount unknown) are not included in this table.

<sup>3</sup> Initial List of TDM Categories and Strategies, SCAG, November 2002; Final TDM Strategy Assessments-Second Screening Phase, Appendix A-Strategy Summaries, SCAG, June 2003

<sup>4</sup> Final TDM Strategy Assessments-Second Screening Phase, SCAG, June 2003

<sup>5</sup> SCAG analysis, September 2003

<sup>6</sup> 2001 RTP, CTC input, April 2001

Considering the TDM goals, along with the assessment results on the relative effectiveness, cost-effectiveness, and feasibility of the strategies, the RTDM consultant team recommended a package of four categories of strategies that have been shown to be highly effective in generating trip and VMT reductions. Further, it builds on the services currently in place in the region, potentially enhancing their effectiveness and cost-effectiveness.<sup>7</sup> This package includes the following:

1. Regional Core Services – Regional promotion and marketing
2. Regional Core Services – Information and support
3. Regional Incentives and Facilities
4. Employer-Based Services

Categories one and two are core services implemented either through a regional agency or by CTCs. The third category includes programs implemented directly to commuters through one or more regional or county agencies. Category four strategies are employer-based requiring substantial support and assistance. Some of the strategies are already in place in the region or in one or more CTC areas.

All of the services included in the Draft 2004 RTP are assumed to be coordinated among CTCs and other organizations that administer or fund TDM services. Since TDM services are provided by individual CTCs, cross-border coordination is vital to success of serving the travel needs of commuters and to meeting inter-county and regional needs (e.g. coordinated cross-county/regional ride-matching, transit, park'n'ride, bicycle lane network, vanpooling universal fare card/transit pass etc.) regardless of the county of origin and/or destination.

## **2. Effective Strategies**

### ***1 - Regional Core Services – Regional Promotion and Marketing***

- Regional Marketing – A coordinated and continuous regional marketing campaign that promotes availability of commute services such as ridematching and transit schedule information.
- Mode and facility-specific marketing (e.g., vanpool, P&R lots, HOV lanes) targeted to commuter segments and locations where rideshare modes are most likely to be effective.
- Market-specific marketing targeted to non-commute markets, such as tourism, cultural and sporting events, and other non-repeating trips.
- Participation and sponsorship of regional rideshare events (e.g., Try Transit week) that raise the visibility of ridesharing and promote trial or occasional use of ridesharing.

### ***2 - Regional Core Services – Information and Support, Regional Coordination***

- Regional Ridematching – offered through a combination of internet ridematching and telephone/mail/email application submittal to CTCs; follow-up assistance provided to applicants via internet, mail, and/or telephone.
- Regional GRH program
- Internet Rideshare/Transit Information – One-stop availability of information on all rideshare strategies: carpooling/ridematching, vanpooling, transit route and schedules, bicycling routes and services.
- Regional Fare Card/Smart Card - Transportation pass valid on all transit systems and for regional vanpooling program.
- Regional Support for Non-motorized Modes – Bike storage facilities, bike commute route maps, bike-on-bus and bike-on-train programs, regional bike club.

### ***3 - Financial Incentives and Facilities***

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<sup>7</sup> TDM Strategy Assessments-Second Screening Phase, SCAG, June 30, 2003

- Try-it Financial Incentives – Non-mode specific incentives targeted to non-ridesharers to encourage trial ridesharing (e.g., Rideshare Rewards, Team Ride, Club Ride).
- On-going Incentives – Incentives for current ridesharers to continue ridesharing (e. g., Club Metro, promotional drawings).
- Universal Annual Employer Pass – Special type of annual transit pass purchased by an employer and distributed to all full-time employees at a worksite.
- Regional Vanpool Network – Fleet vanpool program that offers regional vanpool service on a broad network of routes.

#### **4 – Employer-Based Services (With Employer Incentives)**

- Transit/Vanpool Benefit – Tax-free transit or vanpool benefits offered by employers to employees (e.g., “Commuter Choice tax benefits”)
- Tele-Work/Telecommuting Support – Practice of employees working all day at a location other than their regular workplace, generally a location closer to the employee’s home
- Flexible/Compressed Schedules – Work schedules that allow employees to work a full-time work schedule in arrangements other than the conventional five days per week, eight-hours per day
- Financial Incentives – Incentives include any form of subsidy by which employers reduce the costs of non-drive-alone commuting for their employees.
- Rideshare Support – Support services, such as preferential parking and on-site sales of transit passes, that employers can use to encourage their employees to rideshare to work.

*Note: Employer-Based Services assumes that the regional and/or CTC role in this category would be to encourage employers to provide these services to their employees. The list shown above is not intended to suggest that other employer-based services should not be promoted, only that particular emphasis should be placed on these strategies, due to their motivating and/or support roles. The level of benefit estimated for employers’ participation in these programs assumes that regional agencies and/or CTCs will provide services and benefits to employers that provided worksite commute assistance services, for example:*

1. Technical assistance on-site and through phone and email support
2. Web-based rideshare resource center with access to documents, case studies, and other materials
3. Rideshare program grants for implementation of worksite services by employers
4. Rideshare subsidy reimbursement or cost-sharing for subsidies employers pay to their employees
5. State corporate tax credit for portion of the cost employers expend for TDM services

### **3. Strategy Implementation and Costs**

All the strategies on the list above were deemed to be feasible to implement. Some strategies do, however, present implementation challenges and or considerations. Specific implementation issues related to each strategy have been described in summaries prepared for each individual strategy. These summaries are compiled in a document entitled, “TDM Strategy Assessments, Second Screening Phase”. This document also notes cost elements that are likely to be incurred for each strategy.

### **4. Regional Leadership and Support for TDM Programs**

The recommended package of TDM strategies is ambitious, but the goals for TDM are ambitious. The goals set for TDM can be achieved, however doing so will require that the region devote substantial resources and public support to TDM in the coming years. For purposes of the 2004 DRTP SCAG utilized the estimates of resources available to provide TDM programs and services as provided by the CTCs for the adopted 2001 RTP and allocated those resources per CTC direction.

Ongoing monitoring of TDM effectiveness will determine if the strategy package as outlined appears to be beyond the resources that can be applied by CTCs to meet TDM goals. Should this occur, regional

decision-makers should reconsider the goals and re-scale them to match levels of resources that the region can devote the programs.

## 5. TDM Programs and Actions

### *Increasing Rideshare (Carpool and Van Pool)*

#### **Carpool Market Share**

In order to sustain the existing carpool market share and to increase the number of rideshares, the Region must increase investments in TDM. Just a one percent drop in the carpooling rate translates into more than 40,000 additional vehicles on our freeways and surface streets daily, resulting in an annual increase of 300 million vehicle-miles of travel.

Key RTP recommendations to maintain and increase the existing carpool market and increase the number of carpools by 8,000 annually include:

- ❖ Program funds in the RTIP to maintain the existing carpool market and increase the number of carpools by 8,000 annually.
- ❖ Provide “seamless” intra- and inter-county carpool services to the regional traveler.
- ❖ Maintain the existing carpool market share and increase carpooling rates.
- ❖ Support funding for education and outreach to the general public in order to increase awareness and participation in carpooling and vanpooling.
- ❖ Together with county transportation commissions, SCAG will work to further refine existing rideshare tracking, documentation and reporting methods, so as to improve the Region's ability to effectively demonstrate timely implementation of TCMs as required by the Federal Transportation Conformity Rule, as well as to improve reporting on annual average TDM investments and to enhance their effectiveness.

The cost of meeting our carpool and vanpool (described in the following section) goals is approximately \$10 million on an annual basis. The proposed funding identified in Table D-2.1 is consistent with this need. To meet the Region's goals, SCAG will work closely with the county transportation commissions to ensure that an appropriate level of funding for TDM strategies is programmed.

#### **Vanpooling**

Vanpooling is considered one of the most cost-effective rideshare strategies for long-distance commuters. The effectiveness of vanpooling is based on its ability to reduce vehicle trips and vehicle-miles of travel. Within the SCAG Region, there are approximately 1,400 vanpools (a 30 percent reduction from the 2001 RTP) in operation, carrying an average of 10 riders and traveling approximately 35 miles per one-way trip. Vanpool programs are operated primarily by the private sector, utilizing minimal public subsidy.

Vanpools and transit markets may overlap. Both can serve trips from suburban communities into central areas or other suburban activity centers. However, vanpools can also serve low-density residential communities, where transit operators cannot or do not offer service. Additionally, vanpools can service those traveling on reverse commutes, where transit service may also be lacking.

There are several situations that favor vanpool applications:

- ❖ The presence of HOV facilities, freeway and/or arterials

- ❖ Limited or high-cost parking around the destination site or both
- ❖ Preferential parking, variable work hours and guaranteed ride-home programs for vanpoolers at work sites
- ❖ Limited or non-existent conventional or demand-responsive transit service.

Key RTP recommendations to expand vanpooling in the Region include:

- ❖ Formalize and expand partnerships among public and private sector stakeholders to improve delivery of vanpool services regionally.
- ❖ Increase the number of commuter vanpools from 1,400 to 5,000 through more effective marketing and the provision of non-monetary public sector incentives.
- ❖ Establish a dedicated funding source for planning and implementing vanpool programs and services.
- ❖ Expand the provision of vanpool services in the Region through an increase in dedicated public-sector staffing and resources.
- ❖ Facilitate a regionally coordinated marketing strategy among the public and private sectors to enhance vanpool programs, increase ridership and improve outreach efforts.

### ***Increasing Work-at-Home (Telecommute and Home-Based Business)***

Increasing the number of workers who work-at-home (self-employed, home-based business owners) or who telecommute/telework (wage and salary employees conducting some or all of their work from home) decreases home-based work trips, vehicle-miles of travel and vehicle emissions.

The 2001 RTP assumed that 2.3 percent and 4.7 percent of all work trips would be reduced due to telecommute and work-at-home in 2010 and 2025 respectively. Recently the Bureau of Labor Statistics (BLS) documented that 15 percent of the nation's workforce (home-based businesses and wage and salary employees) report they work at home, 4.4 percent are self-employed in home business and do not commute to work; and 2.5 percent telecommute (2001-Bureau of Labor Statistics Population Survey). In the SCAG Region, according to the Association's 2002 Telework Survey, approximately 3.2 percent of the Region's wage and salary workers telecommute from home instead of commuting to their primary place of employment.

National and regional surveys of those who telecommute indicate that it is a lack of support and trust from "management," rather than the provision of equipment or the desire of workers to telecommute, that hampers the growth of telecommuting. The 2004 RTP, therefore, recommends the following actions:

- ❖ Formalize and expand partnerships among public and private sector stakeholders to increase opportunities for wage and salary workers regionally to telework/telecommute in-lieu of daily commuting.
- ❖ Promote achievement of a 4-5 percent telework/telecommute goal to increase opportunities for wage and salary workers regionally to work-at-home in-lieu of daily commuting.



### ***Decreasing Discretionary Trips and Spreading Demand to Non-Peak Periods***

Decreasing discretionary person and vehicle trips, especially during peak commute periods, and emphasizing the use of non-motorized modes offers opportunities to reduce demand and to improve the efficiency of the transportation system when the highest level of travel demand normally occurs.

Non-work, discretionary trips made during rush hours exacerbate demand for scarce transportation resources that could be better accommodated if shifted to non-peak periods of the day. The key issue is that providers of medical, shopping, school, recreation and related services often provide services during business hours that overlap commute periods. The 2004 RTP recommends the following:

- ❖ Explore the opportunity to develop and to disseminate educational programs at the county and community level that promote consumers' use of non-motorized travel modes for non-work trips made during commute hours.
- ❖ Explore partnerships among public and private sector providers of medical, shopping, school, recreation and related services and programs to identify alternative modes of travel to their establishments and to evaluate their ability to offer consumer services during non-commute hours.

### ***Non-Motorized Transportation***

Given the constraints on resources and our emphasis on land use, the Plan recognizes the importance of non-motorized transportation as an important and integral part of the 2004 RTP.

#### **Pedestrian Transportation**

Pedestrian mobility in urban, suburban and rural areas presents obstacles unique to each environment. There are, however, a number of key areas relevant to any environment, including:

- Pedestrian safety at points of contact with vehicular traffic.
- Access to schools and other public facilities where children are present.
- Requirements of the Americans with Disabilities Act (ADA Requirements).
- Convenience and aesthetics.

Pedestrian issues related to these four areas, but particularly urban pedestrian movement and access to transit stations, is a part of a commuter trip that begins and ends on foot.<sup>8</sup>

#### **Pedestrian issues:**

General requirements for disabled persons (ADA)  
 Access to and from Park & Ride Facilities  
 Traffic calming and other vehicular traffic management techniques  
 Traffic Control Devices  
 Barriers and Bottlenecks (freeways and ramps, parking structures...)

#### **Strategies for improving pedestrian mobility:**

Collection of pedestrian-related accident data  
 GIS and mapping tools  
 Streetscape and Boulevard Improvements

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<sup>8</sup> Pedestrian Issues & Strategies, SCAG, June 2003

Effective public parking plans  
 Zoning, Land Use and Permit Conditions.  
 Infrastructure improvements and improved pedestrian movement  
 Funding programs.

**Recommended actions for further study:**

Define likely causes of pedestrian-related incidents.  
 Determine key accident locations and trends.  
 Coordinate pedestrian mobility planning efforts with Growth Visioning.  
 Evaluate funding availability.

1. Compile a list of funding sources, purpose and availability
2. Apply for planning grant funds
3. Circulate funding sources and availability

**Bicycle Transportation: Issues & Strategies Summarized**

A Bicycle Working Group of the RTDM Task Force met and identified overarching issues that confront safe and effective bicycle commuting. These are:

- **IDENTIFY COMMUTER CORRIDORS:** Identify a list of candidate commuter corridors for the purpose of future regional bikeways planning with an emphasis on providing links between existing systems.
- **INTERMODAL CONNECTIONS:** Conduct a region-wide assessment of intermodal connections between bicycles and transit systems, including storage at stations and access to buses, rail. Equip transit systems for bicycles, including at peak commute periods.
- **QUANTIFY FUNDING NEEDS:** This may be difficult as funding is primarily addressed via municipal and county bicycle master plans (California General Plans do not mandate consideration of bicycle and pedestrian facilities).
- **IDENTIFY FUNDING SOURCES:** Identify funding for planning, development and construction. Support current planning efforts and advocate increased state funding.
- **IDENTIFY COMPREHENSIVE BICYCLE USE STATISTICS:** Collect user demographics, travel patterns/corridors, roadway/bikeway condition and maintenance practices, bicycle-related traffic incidents, subregional improvement projects, latent demand (use if conditions were conducive to bicycle commuting on a regular basis). Provide a comprehensive integrated system for storage and retrieval of data.
- **ADVOCATE A MULTI-MODAL MINDSET** among planning, programming and design staff to facilitate the integration of bicycling (and pedestrian facilities) into the mainstream of transportation planning. This will be accomplished via uniform, methodical integration into subregional and regional transportation planning processes through on-going programs, staff training and analytical tools.
- **IMPROVE ARTERIAL STREETS ACCESS;** particularly during peak travel hours.
- **IDENTIFY AREAS WITH SAFETY DEFICIENCIES** including hot spots, areas requiring maintenance and pavement surface improvements.
- **INTEGRATE BICYCLE PLANNING** into the overall planning process and develop/support methodologies to analyze bicycling in the traffic modeling process.

- **RESOLVE CONFLICT BETWEEN MODE SPLIT/LATENT DEMAND:** Mode split indicates bicycle commuter ridership to be 1% of total trips, thereby making it difficult to justify funding. Bicycle advocates believe there are inadequate methods of determining the bicycle mode split and that there is latent demand that could be met with improved accessibility.
- **INCORPORATE BICYCLE USE IN NEW LAND USE DEVELOPMENTS.**
- **IDENTIFY AND EVALUATE TRAFFIC MANAGEMENT PLANS/BICYCLE USE:** Traffic System Management, Traffic Calming, and other new and innovative strategies that may pose obstacles to bicycles.
- **PROMOTE HOV PROJECTS AND IMPROVEMENTS.** Work to alter the mindset that encourages the predominance of single occupancy vehicle travel.
- The RTDM Task Force observed that:
  - Local communities and bicycle groups often initiate public outreach efforts.
  - The Auto Club provides bicycle safety and education through the school system in 13 Southern California counties.
  - One issue is to determine which issues are best handled through a regional approach and which are best handled through a local community or County Transportation Commission.
  - Consider how bicyclists could help shoulder some of the costs for providing services on public transportation?
  - Traffic calming measures have a much larger impact on land use planning, livable cities, quality of life than do bicycle lanes.

Reinforcing the importance, the 2004 DRTP proposes over \$755 million in investments on non-motorized transportation over the Plan horizon, which is higher than proposed in any Plan in the past. The proposed funding for non-motorized transportation can be used to implement bikeway expansion projects, create a bicycle, and pedestrian-friendly transportation environment, induce mixed-use development that promotes biking and walking, and conduct public safety education for bicyclists and pedestrians. The proposed funding level on a county-by-county basis is depicted in Table D-2.1.